REMARKS

Claims 1-8 are pending in this application. By this Amendment, the specification and claims 1-5 are amended. Claims 7 and 8 are added. No new matter is added.

I. Telephone Interview

The courtesies extended to Applicants' representative by Examiner Nguyen at the telephone interview conducted on March 8, 2005, are appreciated. The reasons presented at the interview as warranting favorable action are incorporated into the remarks below and constitute Applicants' record of the interview.

II. Information Disclosure Statement

An Information Disclosure Statement was filed on December 8, 2004. Applicants respectfully request an initialed copy of the Form PTO-1449 acknowledging receipt and consideration of the references listed thereon be returned. A courtesy copy of Form PTO-1449 and a date-stamped filing receipt is attached.

III. Specification

The specification is objected to for an informality appearing in the Abstract. The Abstract is amended in response to the objection.

A substitute specification is attached to correct minor informalities and spelling errors. No new matter is added to the specification.

IV. Claim Objections

Claims 1 and 2 are objected to for containing a spelling error. Claims 1 and 2 are amended in response to the objection.

V. Claim Rejections Under 35 U.S.C. §112

Claims 4 and 5 are rejected under 35 U.S.C. §112, second paragraph. The claims are amended in response to the rejection. Accordingly, withdrawal of the rejections of claims 4 and 5 under 35 U.S.C. §112, second paragraph, is respectfully requested.

VI. Claim Rejections Under 35 U.S.C. §103

Claims 1-6 are rejected under 35 U.S.C. §103(a) as unpatentable over U.S. Patent Application Publication 2002/0091479 to Maruko et al., ("Maruko"). The rejection is respectfully traversed.

Maruko fails to disclose or suggest each and every feature recited in the pending claims. For example, Maruko fails to disclose or suggest a device for controlling a braking force of a vehicle, the device comprising *inter alia*...a boost-reducing control portion that controls the boosting control portion so as to reduce the braking force when a steering operation is executed by a driver of the vehicle as compared to a braking force to be generated when no steering operation is executed, thereby reducing the braking force and allowing the driver to avoid a collision through the steering operation executed by the driver, as recited in claim 1, or a boost-reducing controlling portion that controls the boosting control portion so as to reduce the braking force when it is judged that the collision is avoidable by a steering operation of a driver of the vehicle as compared to a braking force to be generated when it is judged that the collision is inevitable by the steering operation, as recited in claim 2.

Maruko relates to an automatic braking control system in which a braking system is activated automatically without any driver's braking action when a host vehicle is closing on a frontally-located obstacle or a vehicle ahead (paragraph [0001]).

In Maruko, an electronically controlled vacuum brake booster 24 is used to increase the brake pressure in response to a signal from the electronic control unit (ECU) 29 and a steering angle sensor 35 is provided to detect a steering angle of a steering wheel 36. In a first embodiment, the braking system operates to suppress or prevent automatic preliminary breaking pressure (automatic brake pre application) in the presence of the driver's intention for lane changing (see paragraph [0030]). The automatic braking control system of the first embodiment operates by setting a preliminary braking control mode target brake fluid pressure to a predetermined value, such as 0.1 MPa. The preliminary braking control mode is executed for a predetermined time period by driving the vacuum brake booster 24 (see paragraph [0068]). When the ECU 29 determines that it is the driver's intention to change a lane to avoid the host vehicle from being brought into collision contact with the frontally located objected or to pass the preceding vehicle, that is, in the absence of the drivers intention for braking, the system of the first embodiment can inhibit the preliminary braking control function (see paragraph [0069]).

In the second embodiment, the determination of a driver's intention for changing lanes is the same as in the first embodiment, the preliminary braking control function is inhibited or disengaged or limited in the presence of the driver's intention for lane changing and is engaged or initiated in the absence of the driver's intention for lane changing. In the second embodiment, the supplementary braking control mode is executed with a limitation in the presence of the driver's intention for lane changing (see paragraph [0072]). The electronically-controlled vacuum brake booster is operated so that actual braking pressure is brought closer to target breaking pressure based on a target deceleration rate (see paragraph [0087]). According to the system of the second embodiment, two sorts of supplementary brake-application modes can be executed depending on whether a lane changing indication flag is set or reset. For example, in the presence of a driver's intention for lane changing for obstacle avoidance or in the presence of a driver's intention to pass the preceding vehicle, the automatic supplementary braking operation can be effectively suppressed or limited. In order to match the driver's intention for lane changing, compensated target braking pressure, used during the limited supplementary brake application enabled mode in the case of LC=1, it is decreasingly compensated for, as time to collision TC and/or relative angle θ of the direction of the host vehicle's motion relative to the direction of the preceding vehicle's motion or relative to the object increases (see paragraph [0093]).

Thus, in the case of the second embodiment, taking account of rate of relative distance L with respect to time rate of change dL/dt, that is, time-to-collision TC and/or the host vehicle's relative angle θ relative to frontally positioned object, the automatic braking operation (i.e., the supplementary braking operation) can be properly suppressed or limited (see paragraph [0094]).

Thus, Maruko only discloses that in the presence of a steering operating, such as lane changing, the supplementary braking operation may be suppressed or limited. Accordingly, Maruko fails to disclose or suggest a boost-reducing control portion that controls the boosting control portion so as to reduce the braking force when a steering operation is executed by a driver of the vehicle as compared to a braking force to be generated when no steering operation is executed, thereby reducing the braking force and allowing the driver to avoid a collision through the steering operation executed by the driver. Rather, Maruko merely discloses that operation of an electronically control to vacuum brake booster 24 that executes the supplementary braking operation can be properly suppressed or limited. Accordingly, withdrawal of the rejection of claims 1-6 under 35 U.S.C. §103(a) is respectfully requested.

VII. New Claims

The applied reference fails to disclose or suggest a device for controlling a braking force of a vehicle, the device comprising a braking force boosting control portion that increases the braking force in response to a detection of a first possibility of a collision with an obstacle in a driving course of the vehicle; and a boost-reducing control portion that controls the boosting control portion so as to reduce the braking force when a steering operation is executed by a driver of the vehicle as compared to a braking force to be generated when no steering operation is executed as started from the detection of the first possibility until a second possibility more imminent than the first possibility of the collision with the obstacle is detected, the boost-reducing control portion canceling the reduction of the braking force when the second possibility is detected.

Furthermore, the applied reference fails to disclose or suggest, a device for controlling a braking force of a vehicle, the device comprising a braking force boosting control portion that increases the braking force in response to a detection of a possibility of a collision with an obstacle in a driving course of the vehicle; and a boost-reducing control portion that controls the boosting control portion so as to reduce the braking force when it is judged that the collision is avoidable by a steering operation of a driver of the vehicle as compared to a braking force to be generated when it is judged that the collision is inevitable by the steering operation but to cancel the reduction of the braking force when it is judged thereafter that the collision is inevitable by the steering operation.

VIII. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-8 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,

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